

intrado®

Text-to-9-1-1
1 April 25, 2013

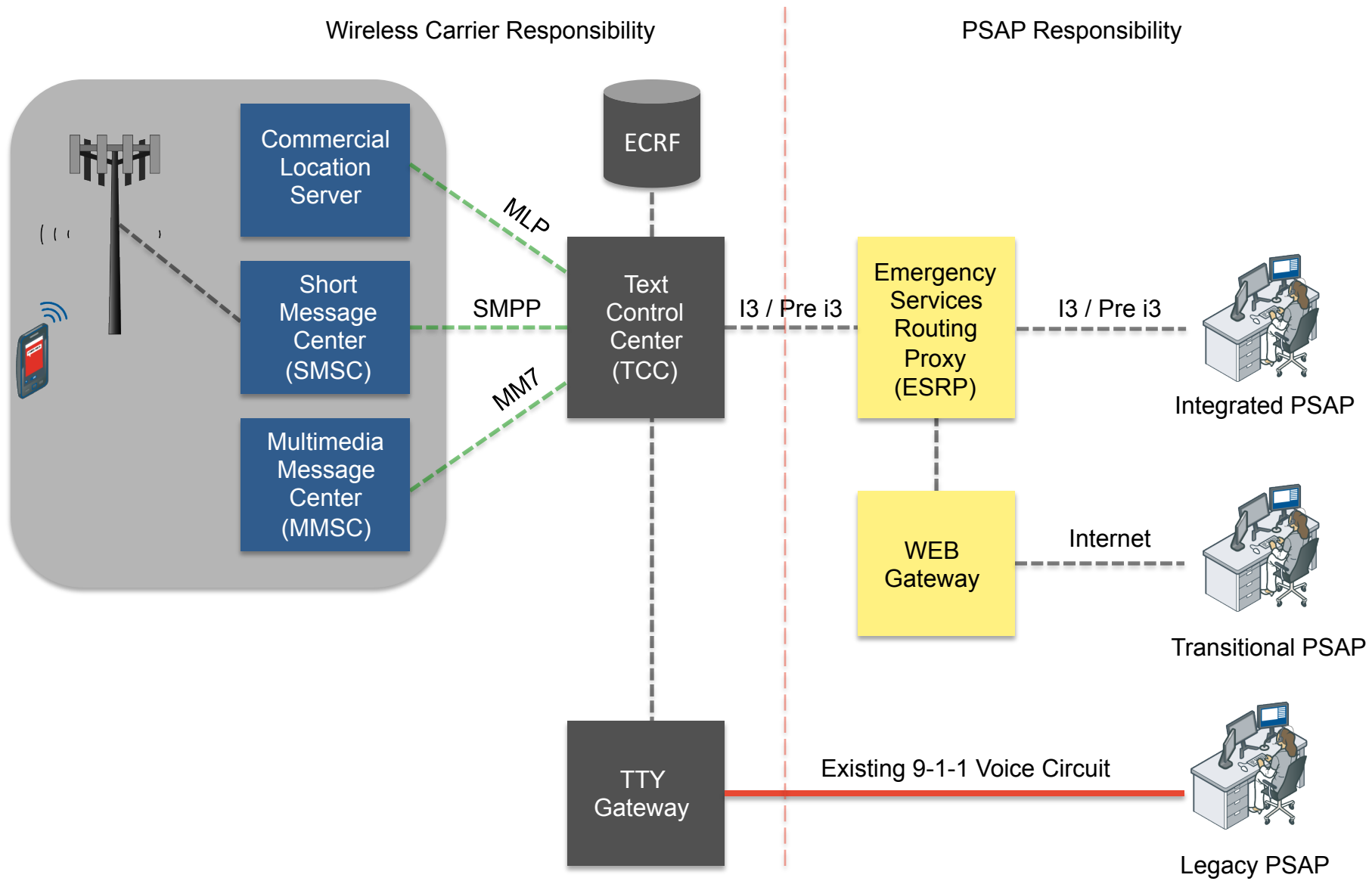
- PSAP Survey
- Text-to-9-1-1 Carrier and PSAP Responsibilities
- PSAP Display Options
- Interoperability
- Future Services (OTT and MMES)



Survey of PSAPs on Text-to-9-1-1

- 134 PSAPs responses
- When do you plan to implement Text-to-9-1-1
 - 36% Within next 12 months
 - 32% Once all carriers deploy
 - 24% More than 12 months
 - 7% Do not plan to implement
- What technology do you plan to implement
 - 57% Integrated with Call Handling Equipment
 - 20% Web based client
 - 10% SMS to TTY
- Do you currently have internet access at your call takers position
 - 76% Yes
 - 24% No
- Intrado hosted Webinar on Text-2-9-1-1 options with over 500 PSAP registrations

Text-to- 9-1-1 Defined



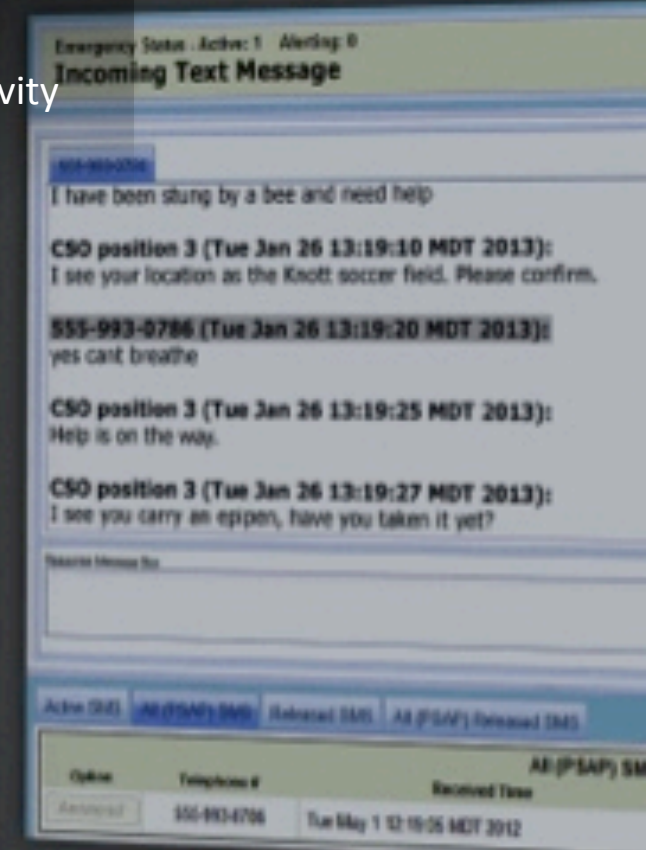
Integrated (CPE and/or CAD)

- Ultimate NextGen 9-1-1 i3 Solution
- PSAP workflow similar to TTY even though underlying technology is different
- Simple PSAP training / low transition effort
- Integrated work flow with voice calls
- Integrated reports and record management
- CAD integration being developed by major CAD vendors
- Does not impact voice trunk capacity



Web Browser

- Transitional Approach – Not long term
- Allows rapid implementation
- Requires significant training and workflow changes
- Separate CPE for voice and text
- Separate reports for voice and text
- No CAD or Voice CPE integration
- Private (ESInet) or public (Internet) connectivity
- Does not impact voice trunk capacity

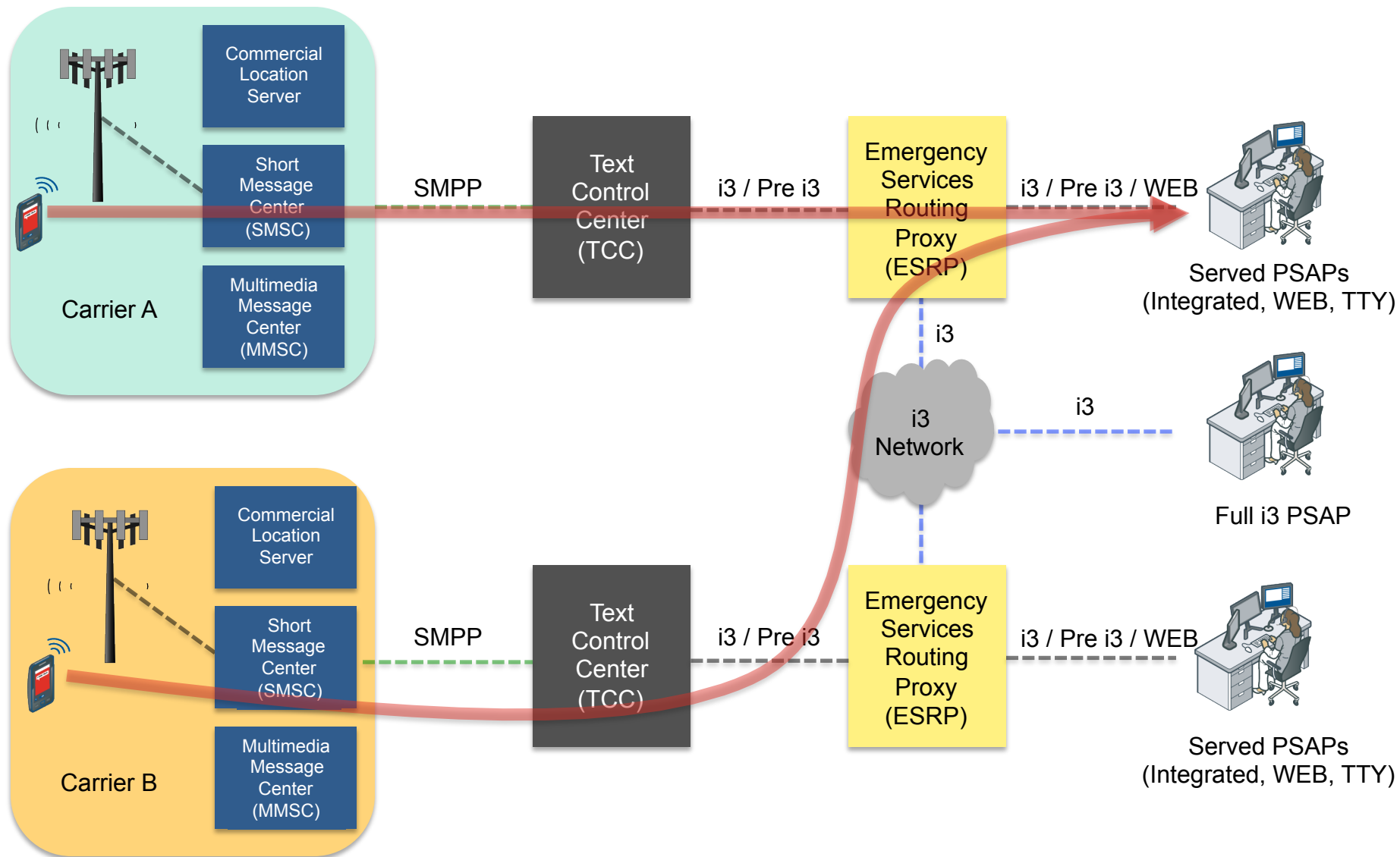


SMS Delivery Over TTY

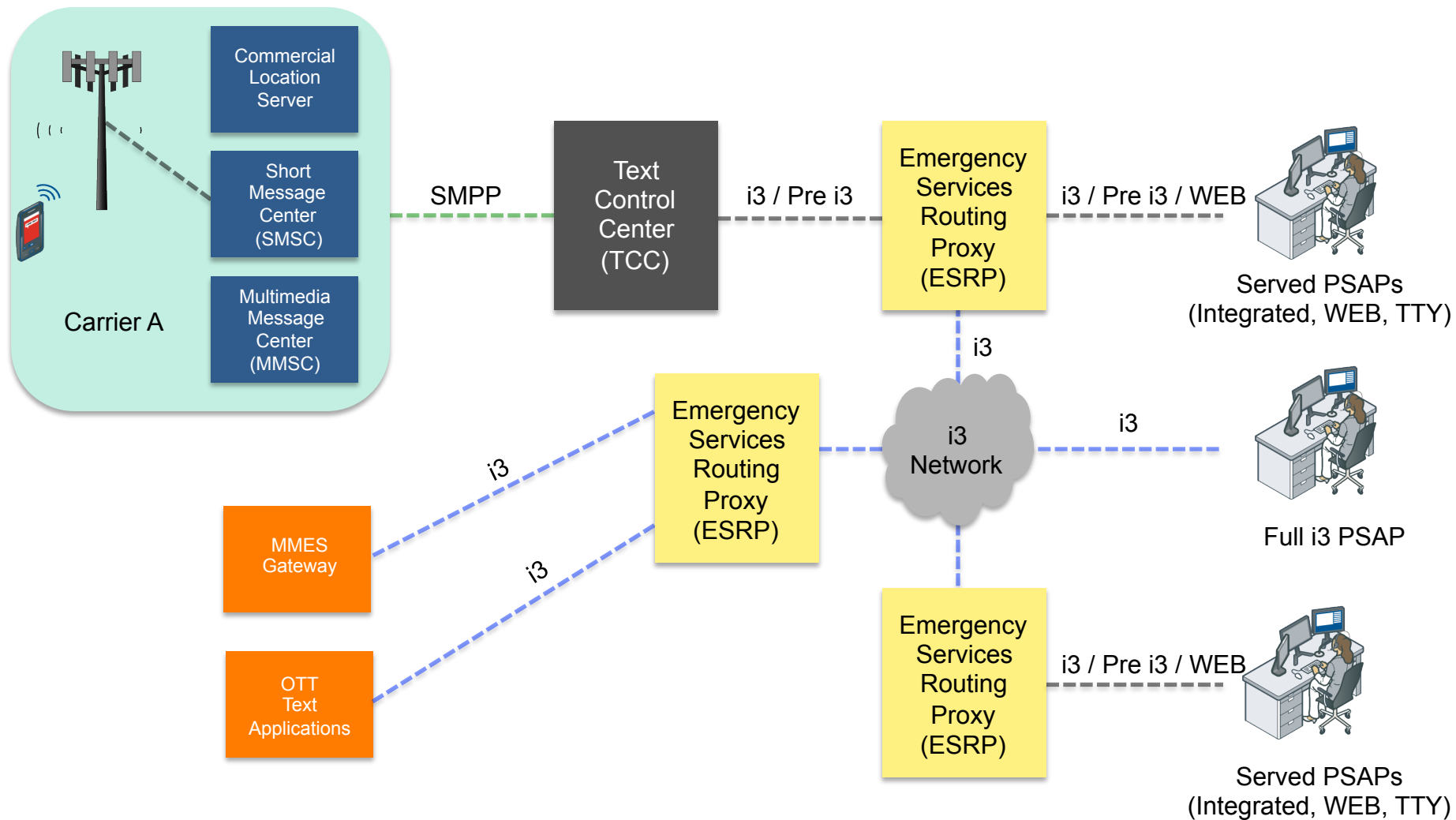
- Developed in early 1960's
- Competes with voice traffic
- Does not require any technical change at PSAP
- Limited character sets
- Very slow
- SMS users do not understand TTY issues
- Requires training
- Error handling issues
 - Message-based to character-based conversion
 - Half duplex
 - Message collision
 - Lost shift character – garbled text
 - Unknown message integrity



Interoperability



MMES and OTT



Challenges and Advantages with Over The Top (OTT) Text Services

- Application may be independent of carrier
- Application can easily roam across different networks
- Switching of network may be invisible to application adding challenges to location acquisition
- Challenge to always use CMRS commercial location service
- User location privacy settings may block location from application
- Higher potential for fraud
 - OTT provider must verify identity of user
 - Must trust OTT provider for validity of subscriber
 - Application not network provides location
- Application must provide location
- Works across multiple platforms and carriers
- Could support multiple forms of location
 - Crowd sourced Cell Location
 - GPS (non assisted)
 - Crowd sourced WiFi location
- Could provide additional information from user
 - Medical, contacts, addresses, bread crumbing, etc.

- Follows closely what Intrado built for it's TEXT-to-9-1-1 trials
- Supports NENA i3 interface into PSAP
- Supports multiple display options
 - Integrated
 - Web Based
 - SMS to TTY
- Does not currently support
 - Delivery Acknowledgements
 - MMS (Text or mixed mode text/pictures)
 - Inter-carrier roaming